

### Abstract

[000126] A method and apparatus provide a network element and associated control system in a broadcast optical communications network, including an optical switch (switch fabric), to cross-connect selected wavelengths input to the switch to pre-determined output ports, under the control of a control (supervisory) channel for efficient upstream and downstream delivery of optical communications services. The network element includes an optical switch controller to monitor the communications traffic input to and output from the optical switch ports in order to dynamically change output port connections for the input wavelengths as controlled by the control channel.

Approved for Release